In re: Chung et al. Serial No.: 10/823,352 Filed: April 13, 2004

Page 2 of 7

In the Claims:

1.-16. (Canceled)

17. (Currently Amended) A method of fabricating a capacitor of a semiconductor device, the method comprising:

forming a capacitor lower electrode on a semiconductor substrate;

forming a dielectric layer on the lower electrode; and sequentially stacking a metallic layer and a polySi_{1-x}Ge_x layer on the dielectric layer to form an upper electrode comprising the metallic layer and the polySi_{1-x}Ge_x layer, wherein the polySi_{1-x}Ge_x layer is formed at about 550°C or less.

- 18. (Previously Presented) The method of Claim 17 wherein the polySi_{1-x}Ge_x layer comprises a doped polySi_{1-x}Ge_x layer.
- 19. (Original) The method of Claim 18, wherein the doped polySi_{1-x}Ge_x layer is formed by doping a polySi_{1-x}Ge_x layer with P or As.
- 20. (Original) The method of Claim 18, wherein the doped polySi_{1-x}Ge_x layer is formed by doping a polySi_{1-x}Ge_x layer with B.
- 21. (Original) The method of Claim 18, wherein the doped polySi_{1-x}Ge_x layer is formed by depositing a polySi_{1-x}Ge_x layer while simultaneously doping impurities.
- 22. (Original) The method of Claim 18, wherein the doped polySi_{1-x}Ge_x layer is deposited and simultaneously activated.
- 23. (Previously Presented) The method of Claim 22, wherein the doped polySi_{1-x}Ge_x is deposited and simultaneously activated between about 350°C and about 550°C.

In re: Chung et al. Serial No.: 10/823,352 Filed: April 13, 2004

Page 3 of 7

- 24. (Original) The method of Claim 18, wherein the doped polySi_{1-x}Ge_x layer is deposited and then activation and thermal treatment is performed.
- 25. (Original) The method of Claim 24, wherein activation and thermal treatment is performed between about 400°C and about 550°C.
- 26. (Original) The method of Claim 17, wherein the metallic layer of the upper electrode comprises TiN, WN, TaN, Cu, W, Al, noble metals, oxide of the noble metals, and/or combinations thereof.
- 27. (Previously Presented) The method of Claim 18, wherein the doped polySi_{1-x}Ge_x layer is formed using low pressure chemical vapor deposition (LP CVD) using furnace type equipment, single wafer type equipment, and/or mini-batch equipment.
- 28. (Original) The method of Claim 17, wherein the lower electrode comprises a metallic layer.
- 29. (Original) A method of fabricating a capacitor of a semiconductor device, the method comprising:

forming a capacitor lower electrode on a semiconductor substrate; forming a dielectric layer on the lower electrode; and forming an Si_{1-x}Ge_x layer on the dielectric layer at about 550°C or less.

- 30. (Original) A method according to Claim 29, further comprising: thermally treating the Si_{1-x}Ge_x layer at about 550°C or less.
- 31. (Previously Presented) A method according to Claim 29 wherein the following is performed between forming a dielectric layer and forming an Si_{1-x}Ge_x layer:

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forming a metallic layer on the dielectric layer; and

In re: Chung et al. Serial No.: 10/823,352 Filed: April 13, 2004

Page 4 of 7

wherein forming an Si_{1-x}Ge_x layer comprises forming an Si_{1-x}Ge_x layer on the metallic layer at about 550°C or less.

- 32. (Previously Presented) A method according to Claim 29 wherein the Si_{1-x}Ge_x layer comprises a polySi_{1-x}Ge_x layer.
 - 33. (Canceled)
- 34. (Previously Presented) A method according to Claim 29 wherein the lower electrode comprises a metallic layer.
 - 35. (New) The method of Claim 17 wherein x is between 0.1 and 0.9.
 - 36. (New) The method of Claim 17 wherein x is between 0.1 and 0.6.
- 37. (New) A method according to Claim 29 wherein x is between 0.1 and 0.9.
- 38. (New) A method according to Claim 29 wherein x is between 0.1 and 0.6.